

FILE COPY

ANALYTICAL REPORT

CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY:

Job Number: 360-31119-1

Job Description: Olin Chemical SemiAnnual Groundwater

For:

Olin Corporation 3855 North Ocoee Street Suite 200 Cleveland, TN 37312-4441

Attention: Mr. Steven Morrow

Wet Chem

Dore?

validatel Re-

Joseph a. Cheur J.

Approved for release.
Joe Chimi
Report Production Representativ
11/30/10 11:10 AM

Designee for
Becky C Mason
Project Manager II
becky.mason@testamericainc.com
11/30/2010

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Westfield Certifications and Approvals: MADEP MA014, RIDOH57, CTDPH 0494, VT DECWSD, NH DES 2539, NELAP FL E87912 TOX, NELAP NJ MA008 TOX, NELAP NY 10843, NY ELAP 10843, North Carolina 647, NELAP PA 68-04386. Field sampling is performed under SOPs WE-FLD-001 and WE-FLD-002.



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| | MassDEP Analytical Protocol Certification Form | | | | | | | | | |
|------------------|--|--|------------------|---------|-------------------------|---------|---|----------------|-------|-----------------|
| Laboi | ratory Name: | TestAmeri | ca Westfield | | Proje | ct #: | 360-3111 | 19-1 | | |
| Proje | ect Location: | | | | R | TN: | | | | |
| This f | form provide | es certifications fo | r the following | data | set: list Labo | rato | ry Sample ID Number(s)): | | | |
| | 1119-(1-9) | | | | | _ | | | | |
| Matric | es: X | Groundwater/Surfa | ice Water | ; | Soil/Sediment | | Drinking Water | oth | er: | |
| | | (check all that ap | | | | | | T | | |
| 8260 | _ | 7470/7471 Hg | Mass DEP VF | | 8081 Pesticide | S | 7196 Hex Cr | Mass DEF | API | _ |
| CAM | | CAM III B | CAM IV A | | CAM V B L | | CAM VI B | CAM IX A | | Ш |
| 8270 | | 7010 Metals | Mass DEP EF | | 8151 Herbicide | es — | 8330 Explosives | TO-15 VO | C | |
| CAM | II B 🔲 | CAM III C | CAM IV B | _ | CAM V C [9014 Total | | CAM VIII A | CAM IX B | | |
| 6010 | Metals | 6020 Metals | 8082 PCB | | Cyanide/PAC | | 332.0 Perchlorate | | | |
| CAM | III A 💢 | CAM III D | CAM V A | | CAM VI A | | CAM VIII B | | | |
| | Affirmative | Responses to Que | estions A thro | ugh F | are required f | or " | Presumptive Certainty" st | atus | | |
| | | - | | | - | | ed on the Chain-of-Custody, | | | |
| Α | | • | | | | | d prepared/analyzed within | | | |
| | method hold | ling time. | | | | | | X Yes | | No |
| В | Were the an protocol(s) f | • | nd all associate | ed QC | requirements | spe | cified in the selected CAM | XYes | | No |
| С | | uired corrective acti mplemented for all i | | | | | ecified in the selected CAM nformances? | X Yes | | No |
| D | "Quality Ass Data"? | urance and Quality | Control Guideli | nes fo | r the Acquisitio | n ar | pecified in CAM VII A, and Reporting of Analytical | X Yes | | No |
| Е | modification | Hand APH Methods (s)? (Refer to the in- TO-15 Methods onli | dividual method | d(s) fo | r a list of signif | ican | • | ☐ Yes ☐ Yes | | No No |
| F | Were all app | olicable CAM protoc | ol QC and perf | orman | ce standard no | on-c | onformances identified and stions A through E)? | X Yes | | No |
| | Respon | ses to Questions (| 3, H and I belo | w are | required for ' | 'Pre | sumptive Certainty" statu | S | | |
| G | Were the reprotocol(s)? | porting limits at or b | elow all CAM re | eportin | ng limits specifi | ed ii | n the selected CAM | X | | No ¹ |
| | | Data that achieve "Pr requirements descr | • | • | • | | cessarily meet the data usabi | lity and | | |
| H | | - | | | | | | X Yes | | Na |
| - ''- | | performance stand | • | | | | | | X | No |
| 1 All n | | onses must be addre | | | | | cted CAM protocol(s) ? | ∐ Yes | | No |
| l, the o | undersigned, | attest under the pair | ns and penalties | s of pe | erjury that, base | ed up | oon my personal inquiry of the hest of my knowledge and | | sible | for |
| Signa | ture: | State | estua | | Posi | tion: | Laboratory D | Director | | |
| Printe | d Name: | Steven C | . Hartmann | | D | ate: | 11/30/10 1 | 10:59 | | |
| This forn | n has been electro | nically signed and approved | | | | | | | | |

CASE NARRATIVE

Client: Olin Corporation

Project: Olin Chemical SemiAnnual Groundwater

Report Number: 360-31119-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/16/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.0 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 C of the required temperature or method specified range. For samples with a specified temperature of 4 C, samples with a temperature ranging from just above freezing temperature of water to 6 C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DISSOLVED METALS

Samples OC-GW-10S (360-31119-1), OC-GW-201S (360-31119-2), OC-GW-24 (360-31119-3), OC-GW-26 (360-31119-4), OC-PZ-18R (360-31119-5), OC-GW-35S (360-31119-6), OC-GW-25 (360-31119-7), OC-GW-76S (360-31119-8) and OC-GW-CA1 (360-31119-9) were analyzed for dissolved metals in accordance with EPA SW-846 Method 6010B. The samples were analyzed on 11/19/2010.

Sample OC-GW-201S (360-31119-2)[2X] required dilution prior to analysis due to high non-target concentration. The reporting limits have been adjusted accordingly.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No difficulties were encountered during the dissolved metals analyses.

All quality control parameters were within the acceptance limits.

ANIONS

Samples OC-GW-10S (360-31119-1), OC-GW-201S (360-31119-2), OC-GW-24 (360-31119-3), OC-GW-26 (360-31119-4), OC-PZ-18R (360-31119-5), OC-GW-35S (360-31119-6), OC-GW-25 (360-31119-7), OC-GW-76S (360-31119-8) and OC-GW-CA1 (360-31119-9) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 11/22/2010, 11/23/2010 and 11/24/2010.

Samples OC-GW-201S (360-31119-2)[10X], OC-GW-201S (360-31119-2)[50X], OC-GW-26 (360-31119-4)[10X], OC-PZ-18R (360-31119-5)[10X], OC-GW-25 (360-31119-7)[10X], OC-GW-76S (360-31119-8)[10X] and OC-GW-CA1 (360-31119-9)[10X] required dilution prior to analysis due to high target concentration. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

AMMONIA

Samples OC-GW-10S (360-31119-1), OC-GW-201S (360-31119-2), OC-GW-24 (360-31119-3), OC-GW-26 (360-31119-4), OC-PZ-18R (360-31119-5), OC-GW-35S (360-31119-6), OC-GW-25 (360-31119-7), OC-GW-76S (360-31119-8) and OC-GW-CA1 (360-31119-9) were analyzed for ammonia in accordance with Lachat 107-06-1B. The samples were prepared on 11/23/2010 and analyzed on 11/24/2010.

Samples OC-GW-201S (360-31119-2)[10X], OC-GW-24 (360-31119-3)[5X], OC-GW-26 (360-31119-4)[5X] and OC-GW-25

(360-31119-7)[5X] required dilution prior to analysis due to high concentration. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

SPECIFIC CONDUCTIVITY

Samples OC-GW-10S (360-31119-1), OC-GW-201S (360-31119-2), OC-GW-24 (360-31119-3), OC-GW-26 (360-31119-4), OC-PZ-18R (360-31119-5), OC-GW-35S (360-31119-6), OC-GW-25 (360-31119-7), OC-GW-76S (360-31119-8) and OC-GW-CA1 (360-31119-9) were analyzed for specific conductivity in accordance with SM20 2510B. The samples were analyzed on 11/18/2010.

No difficulties were encountered during the conductivity analyses.

All quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation Job Number: 360-31119-1

| Sulfate | Lab Sample ID CI Analyte | lient Sample ID | Result / Q | ualifier | Reporting Limit | Units | Method |
|--|------------------------------|-----------------|------------|----------|--------------------|----------|------------|
| Chloride | 360-31119-1 | OC-GW-10S | | | | | |
| Chloride | Sulfate | | 58 | | 2.0 | mg/L | 300.0 |
| 170 | Chloride | | | | | | |
| Dissolved | Ammonia | | 0.23 | | 0.10 | mg/L | L107-06-1B |
| Aluminum | Specific Conductance | | 170 | | 1.0 | umhos/cm | SM 2510B |
| 1.9 | Dissolved | | | | | | |
| 1.9 | Aluminum | | 2900 | | 100 | ug/L | 6010B |
| Sulfate | Chromium | | 1.9 | J | 5.0 | | 6010B |
| Chloride | 360-31119-2 | OC-GW-201S | | | | | |
| Chloride | Sulfate | | 1900 | | 100 | mg/L | 300.0 |
| Anmonia 160 1.0 mg/L L107-06-1B Specific Conductance 3600 1.0 umhos/cm SM 2510B Dissolved Chromium 32 10 ug/L 6010B 360-31119-3 OC-GW-24 Sulfate 67 2.0 mg/L 300.0 Mg/L 300.0 Mg/L 300.0 Mg/L 300.0 Mg/L 100-6-1B Mg/L 300.0 Mg/L 300.0 Mg/L 300.0 Mg/L 100-6-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 Mg/L 107-06-1B Mg/L 300.0 M | Chloride | | | | | | |
| Specific Conductance 3600 1.0 umhos/cm SM 2510B | Ammonia | | | | | | |
| Schromium 32 10 ug/L 6010B | Specific Conductance | | 3600 | | | _ | |
| Sulfate 67 2.0 mg/L 300.0 Chloride 9.8 1.0 mg/L 300.0 Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 360 1.0 mg/L 300.0 SM 2510B 360-31119-4 OC-GW-26 Sulfate 99 2.0 mg/L 300.0 SM 2510B Chloride 69 10 mg/L 300.0 SM 2510B Chloride 69 10 mg/L 300.0 SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B Chloride 7.3 5.0 ug/L 6010B Sulfate 8 0.50 mg/L L107-06-1B SM 2510B Chloride 950 1.0 mg/L 300.0 SM 2510B Chloride 950 1.0 mg/L 300.0 SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B | Dissolved Chromium | | 32 | | 10 | ug/L | 6010B |
| Chloride | 360-31119-3 | OC-GW-24 | | | | | |
| Chloride | Sulfate | | 67 | | 2.0 | mg/L | 300.0 |
| Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 360 1.0 mg/L umhos/cm SM 2510B 360-31119-4 OC-GW-26 Sulfate 99 2.0 mg/L 300.0 mg/L 300.0 mg/L 300.0 mg/L L107-06-1B Specific Conductance 550 1.0 umhos/cm SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 mg/L 6010B Specific Conductance 100 10 mg/L 300.0 mg/L 500.0 mg/L | Chloride | | 9.8 | | | | |
| Sulfate 99 2.0 mg/L 300.0 Chloride 69 10 mg/L 107-06-1B Specific Conductance 550 1.0 ug/L 6010B | Ammonia | | 28 | | 0.50 | | L107-06-1B |
| Sulfate 99 2.0 mg/L 300.0 Chloride 69 10 mg/L 300.0 Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 550 1.0 umhos/cm SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | Specific Conductance | | 360 | | 1.0 | umhos/cm | SM 2510B |
| Chloride 69 10 mg/L 300.0 Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 550 1.0 umhos/cm SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | 360-31119-4 | OC-GW-26 | | | | | |
| Chloride 69 10 mg/L 300.0 Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 550 1.0 umhos/cm SM 2510B Dissolved Chromium 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | Sulfate | | 99 | | 2.0 | mg/L | 300.0 |
| Ammonia 28 0.50 mg/L L107-06-1B Specific Conductance 550 1.0 umhos/cm SM 2510B **Dissolved** Chromium 7.3 5.0 ug/L 6010B **360-31119-5 OC-PZ-18R** Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B **Dissolved** | Chloride | | | | | | |
| Dissolved 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | Ammonia | | | | 0.50 | | L107-06-1B |
| Chromium 7.3 5.0 ug/L 6010B 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L 107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | Specific Conductance | | 550 | | 1.0 | umhos/cm | SM 2510B |
| 360-31119-5 OC-PZ-18R Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B Dissolved | Dissolved Chromium | | 7.3 | | 5.0 | ug/L | 6010B |
| Sulfate 110 20 mg/L 300.0 Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B | | | | | | - | |
| Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B Dissolved | 360-31119-5 | OC-PZ-18R | | | | | |
| Chloride 100 10 mg/L 300.0 Ammonia 20 0.10 mg/L L107-06-1B Specific Conductance 680 1.0 umhos/cm SM 2510B Dissolved | Sulfate | | 110 | | 20 | mg/L | 300.0 |
| Specific Conductance 680 1.0 umhos/cm SM 2510B Dissolved | Chloride | | | | | mg/L | |
| Dissolved | Ammonia | | | | | mg/L | |
| | Specific Conductance | | 680 | | 1.0 | umhos/cm | SM 2510B |
| | Dissolved | | | | | | |
| | Chromium | | 7.2 | | 5.0 | ug/L | 6010B |

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation Job Number: 360-31119-1

| Lab Sample ID C | Client Sample ID | Result / C | Qualifier | Reporting Limit | Units | Method |
|----------------------|------------------|------------|-----------|--------------------|----------|------------|
| 360-31119-6 | OC-GW-35S | | | | | |
| Sulfate | | 98 | | 2.0 | mg/L | 300.0 |
| Chloride | | 4.0 | | 1.0 | mg/L | 300.0 |
| Ammonia | | 17 | | 0.10 | mg/L | L107-06-1B |
| Specific Conductance | | 450 | | 1.0 | umhos/cm | SM 2510B |
| Dissolved | | | | | | |
| Aluminum | | 26 | J | 100 | ug/L | 6010B |
| Chromium | | 25 | | 5.0 | ug/L | 6010B |
| 360-31119-7 | OC-GW-25 | | | | | |
| Sulfate | | 93 | | 2.0 | mg/L | 300.0 |
| Chloride | | 130 | | 10 | mg/L | 300.0 |
| Ammonia | | 42 | | 0.50 | mg/L | L107-06-1B |
| Specific Conductance | | 780 | | 1.0 | umhos/cm | SM 2510B |
| Dissolved | | | | | | |
| Chromium | | 2.8 | J | 5.0 | ug/L | 6010B |
| 360-31119-8 | OC-GW-76S | | | | | |
| Sulfate | | 55 | | 2.0 | mg/L | 300.0 |
| Chloride | | 71 | | 10 | mg/L | 300.0 |
| Ammonia | | 17 | | 0.10 | mg/L | L107-06-1B |
| Specific Conductance | | 410 | | 1.0 | umhos/cm | SM 2510B |
| Dissolved | | | | | | |
| Aluminum | | 14 | J | 100 | ug/L | 6010B |
| Chromium | | 3.1 | J | 5.0 | ug/L | 6010B |
| 360-31119-9 | OC-GW-CA1 | | | | | |
| Sulfate | | 100 | | 20 | mg/L | 300.0 |
| Chloride | | 11 | | 1.0 | mg/L | 300.0 |
| Ammonia | | 1.1 | | 0.10 | mg/L | L107-06-1B |
| Specific Conductance | | 600 | | 1.0 | umhos/cm | SM 2510B |
| Dissolved | | | | | | |
| Aluminum | | 20 | J | 100 | ug/L | 6010B |
| Chromium | | 8.8 | | 5.0 | ug/L | 6010B |

METHOD SUMMARY

Client: Olin Corporation Job Number: 360-31119-1

| Description | Lab Location | Method | Preparation Method |
|---|--------------------|----------------|-------------------------|
| Matrix: Water | | | |
| Dissolved Metals Sample Filtration, Field | TAL WFD | SW846 6010B | FIELD_FLTRD |
| Chloride & Sulfate | TAL WFD | 40CFR136A 300. | .0 |
| Nitrogen Ammonia Distillation, Ammonia | TAL WFD TAL WFD | LACHAT L107-06 | 6-1B Distill/Ammonia |
| Conductivity, Specific Conductance | TAL WFD | SM SM 2510B | |

Lab References:

TAL WFD = TestAmerica Westfield

Method References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Olin Corporation Job Number: 360-31119-1

| Method | Analyst | Analyst ID |
|-------------------|------------------|------------|
| SW846 6010B | Smith, Tim J | TJS |
| 40CFR136A 300.0 | Emerich, Rich W | RWE |
| LACHAT L107-06-1B | Emerich, Rich W | RWE |
| SM SM 2510B | Stewart, Alyse M | AMS |

SAMPLE SUMMARY

Client: Olin Corporation Job Number: 360-31119-1

| | | | Date/Time | Date/Time |
|---------------|------------------|---------------|-----------------|-----------------|
| Lab Sample ID | Client Sample ID | Client Matrix | Sampled | Received |
| 360-31119-1 | OC-GW-10S | Water | 11/16/2010 1320 | 11/16/2010 1720 |
| 360-31119-2 | OC-GW-201S | Water | 11/16/2010 1255 | 11/16/2010 1720 |
| 360-31119-3 | OC-GW-24 | Water | 11/16/2010 1410 | 11/16/2010 1720 |
| 360-31119-4 | OC-GW-26 | Water | 11/16/2010 1150 | 11/16/2010 1720 |
| 360-31119-5 | OC-PZ-18R | Water | 11/16/2010 1405 | 11/16/2010 1720 |
| 360-31119-6 | OC-GW-35S | Water | 11/16/2010 1120 | 11/16/2010 1720 |
| 360-31119-7 | OC-GW-25 | Water | 11/16/2010 0905 | 11/16/2010 1720 |
| 360-31119-8 | OC-GW-76S | Water | 11/16/2010 1035 | 11/16/2010 1720 |
| 360-31119-9 | OC-GW-CA1 | Water | 11/16/2010 1010 | 11/16/2010 1720 |

SAMPLE RESULTS

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-10S

Lab Sample ID: 360-31119-1 Date Sampled: 11/16/2010 1320

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation:N/ALab File ID:111910d.csvDilution:1.0Initial Weight/Volume:1.0mL

Date Analyzed: 11/19/2010 1534 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 2900
 12
 100

 Chromium
 1.9
 J
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-201S

Lab Sample ID: 360-31119-2 Date Sampled: 11/16/2010 1255

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A Lab File ID: 111910d.csv Dilution: 2.0 Lab File ID: 111910d.csv

Date Analyzed: 11/19/2010 1829 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 ND
 25
 200

 Chromium
 32
 1.3
 10

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-24

Lab Sample ID: 360-31119-3 Date Sampled: 11/16/2010 1410

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A Lab File ID: 111910d.csv
Dilution: 1.0 Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/19/2010 1543 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 ND
 12
 100

 Chromium
 ND
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-26

Lab Sample ID: 360-31119-4 Date Sampled: 11/16/2010 1150

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A

Dilution: 1.0

Lab File ID: 111910d.csv

Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/19/2010 1546 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 ND
 12
 100

 Chromium
 7.3
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-PZ-18R

Lab Sample ID: 360-31119-5 Date Sampled: 11/16/2010 1405

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A Lab File ID: 111910d.csv Dilution: 1.0 Lab File ID: 111910d.csv

Date Analyzed: 11/19/2010 1549 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 ND
 12
 100

 Chromium
 7.2
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-35S

Lab Sample ID: 360-31119-6 Date Sampled: 11/16/2010 1120

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method:6010BAnalysis Batch: 360-66152Instrument ID:Varian ICPPreparation:N/ALab File ID:111910d.csv

Dilution: 1.0 Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/19/2010 1552 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 26
 J
 12
 100

 Chromium
 25
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-25

Lab Sample ID: 360-31119-7 Date Sampled: 11/16/2010 0905

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A Lab File ID: 111910d.csv Dilution: 1.0 Lab File ID: 111910d.csv

Date Analyzed: 11/19/2010 1554 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 ND
 12
 100

 Chromium
 2.8
 J
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-76S

Lab Sample ID: 360-31119-8 Date Sampled: 11/16/2010 1035

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation:N/ALab File ID:111910d.csvDilution:1.0Initial Weight/Volume:1.0mL

Date Analyzed: 11/19/2010 1557 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 14
 J
 12
 100

 Chromium
 3.1
 J
 0.65
 5.0

Client: Olin Corporation Job Number: 360-31119-1

Client Sample ID: OC-GW-CA1

Lab Sample ID: 360-31119-9 Date Sampled: 11/16/2010 1010

Client Matrix: Water Date Received: 11/16/2010 1720

6010B Dissolved Metals-Dissolved

Method: 6010B Analysis Batch: 360-66152 Instrument ID: Varian ICP

Preparation: N/A

Dilution: 1.0

Lab File ID: 111910d.csv

Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/19/2010 1600 Final Weight/Volume: 1.0 mL

Date Prepared:

 Analyte
 Result (ug/L)
 Qualifier
 MDL
 RL

 Aluminum
 20
 J
 12
 100

 Chromium
 8.8
 0.65
 5.0

General Chemistry

Client Sample ID: OC-GW-10S

Lab Sample ID: 360-31119-1 Date Sampled: 11/16/2010 1320

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|--------------------|---------------------------|---------------|--------------|-------------|------|-----|------------|
| Sulfate | 58 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66329 | Date Analyzed | : 11/22/201 | 0 1918 | | | |
| Chloride | 21 | | mg/L | 1.0 | 1.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66329 | Date Analyzed | : 11/22/201 | 0 1918 | | | |
| Ammonia | 0.23 | | mg/L | 0.10 | 0.10 | 1.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/201 | 0 1048 | | | |
| | Prep Batch: 360-66232 | Date Prep | oared: 11/23 | 3/2010 1056 | | | |
| Specific Conductar | nce 170 | | umhos/cn | n 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-66028 | Date Analyzed | : 11/18/201 | 0 1124 | | | |

General Chemistry

Client Sample ID: OC-GW-201S

Lab Sample ID: 360-31119-2 Date Sampled: 11/16/2010 1255

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|--------------------|---------------------------|---------------|--------------|-------------|-----|-----|------------|
| Sulfate | 1900 | | mg/L | 100 | 100 | 50 | 300.0 |
| | Analysis Batch: 360-66377 | Date Analyzed | : 11/24/201 | 0 2127 | | | |
| Chloride | 140 | | mg/L | 10 | 10 | 10 | 300.0 |
| | Analysis Batch: 360-66329 | Date Analyzed | : 11/22/201 | 0 2103 | | | |
| Ammonia | 160 | | mg/L | 1.0 | 1.0 | 10 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/201 | 0 1135 | | | |
| | Prep Batch: 360-66232 | Date Prep | oared: 11/23 | 3/2010 1056 | | | |
| Specific Conductar | nce 3600 | | umhos/cr | n 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-66028 | Date Analyzed | : 11/18/201 | 0 1126 | | | |

General Chemistry

Client Sample ID: OC-GW-24

Lab Sample ID: 360-31119-3 Date Sampled: 11/16/2010 1410 Client Matrix: Water

Date Received: 11/16/2010 1720

| Analyte | R | esult | Qual | Units | RL | RL | Dil | Method |
|--------------------|--------------------------|---------|-------------|--------------|------------|------|-----|------------|
| Sulfate | 67 | 7 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-6632 | 9 Date | e Analyzed: | : 11/22/2010 | 2119 | | | |
| Chloride | 9. | 8 | | mg/L | 1.0 | 1.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-6632 | 29 Date | e Analyzed: | : 11/22/2010 | 2119 | | | |
| Ammonia | 28 | 3 | | mg/L | 0.50 | 0.50 | 5.0 | L107-06-1B |
| | Analysis Batch: 360-6630 | 5 Date | e Analyzed: | : 11/24/2010 | 1138 | | | |
| | Prep Batch: 360-662 | 232 | Date Prep | ared: 11/23 | /2010 1056 | | | |
| Specific Conductar | nce 36 | 30 | | umhos/cm | 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-6602 | 28 Date | e Analyzed: | : 11/18/2010 | 1127 | | | |

General Chemistry

Client Sample ID: OC-GW-26

Lab Sample ID: 360-31119-4 Date Sampled: 11/16/2010 1150 Client Matrix: Water

Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|--------------------|---------------------------|---------------|-------------|-------------|------|-----|------------|
| Sulfate | 99 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66329 | Date Analyzed | : 11/22/201 | 0 2149 | | | |
| Chloride | 69 | | mg/L | 10 | 10 | 10 | 300.0 |
| | Analysis Batch: 360-66329 | Date Analyzed | : 11/22/201 | 0 2204 | | | |
| Ammonia | 28 | | mg/L | 0.50 | 0.50 | 5.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/201 | 0 1139 | | | |
| | Prep Batch: 360-66232 | Date Prep | ared: 11/23 | 3/2010 1056 | | | |
| Specific Conductan | ce 550 | | umhos/cr | n 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-66028 | Date Analyzed | : 11/18/201 | 0 1128 | | | |

General Chemistry

Client Sample ID: OC-PZ-18R

Lab Sample ID: 360-31119-5 Date Sampled: 11/16/2010 1405

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|---------------------|---------------------------|---------------|---------------|-----------|------|-----|------------|
| Sulfate | 110 | | mg/L | 20 | 20 | 10 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/22/2010 | 2334 | | | |
| Chloride | 100 | | mg/L | 10 | 10 | 10 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/22/2010 | 2334 | | | |
| Ammonia | 20 | | mg/L | 0.10 | 0.10 | 1.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/2010 | 1054 | | | |
| | Prep Batch: 360-66232 | Date Prep | oared: 11/23/ | 2010 1056 | | | |
| Specific Conductano | ce 680 | | umhos/cm | 1.0 | 1.0 | 1.0 | SM 2510B |
| | | 5 | 4444040040 | 4.400 | | | |

General Chemistry

Client Sample ID: OC-GW-35S

Lab Sample ID: 360-31119-6 Date Sampled: 11/16/2010 1120

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | | Result | Qual | Units | RL | RL | Dil | Method |
|--------------------|-------------------------|--------|---------------|--------------|-------------|------|-----|------------|
| Sulfate | | 98 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-663 | 331 | Date Analyzed | : 11/22/201 | 0 2350 | | | |
| Chloride | | 4.0 | | mg/L | 1.0 | 1.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-663 | 331 | Date Analyzed | : 11/22/201 | 0 2350 | | | |
| Ammonia | | 17 | | mg/L | 0.10 | 0.10 | 1.0 | L107-06-1B |
| | Analysis Batch: 360-663 | 305 | Date Analyzed | : 11/24/201 | 0 1055 | | | |
| | Prep Batch: 360-6 | 6232 | Date Prep | pared: 11/23 | 3/2010 1056 | | | |
| Specific Conductar | nce | 450 | | umhos/cr | n 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-660 | 028 | Date Analyzed | : 11/18/201 | 0 1131 | | | |

General Chemistry

Client Sample ID: OC-GW-25

Lab Sample ID: 360-31119-7 Date Sampled: 11/16/2010 0905 Client Matrix: Water

Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|---------------------|---------------------------|---------------|--------------|-------------|------|-----|------------|
| Sulfate | 93 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/201 | 0 0020 | | | |
| Chloride | 130 | | mg/L | 10 | 10 | 10 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/201 | 0 0035 | | | |
| Ammonia | 42 | | mg/L | 0.50 | 0.50 | 5.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/201 | 0 1140 | | | |
| | Prep Batch: 360-66232 | Date Prep | oared: 11/23 | 3/2010 1056 | | | |
| Specific Conductano | ce 780 | | umhos/cr | n 1.0 | 1.0 | 1.0 | SM 2510B |
| | Analysis Batch: 360-66028 | Date Analyzed | : 11/18/201 | 0 1133 | | | |

General Chemistry

Client Sample ID: OC-GW-76S

Lab Sample ID: 360-31119-8 Date Sampled: 11/16/2010 1035

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|---------------------|---------------------------|---------------|----------------|-----------|------|-----|------------|
| Sulfate | 55 | | mg/L | 2.0 | 2.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/2010 | 0050 | | | |
| Chloride | 71 | | mg/L | 10 | 10 | 10 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/2010 | 0105 | | | |
| Ammonia | 17 | | mg/L | 0.10 | 0.10 | 1.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/2010 | 1057 | | | |
| | Prep Batch: 360-66232 | Date Prep | pared: 11/23/2 | 2010 1056 | | | |
| Specific Conductano | ce 410 | | umhos/cm | 1.0 | 1.0 | 1.0 | SM 2510B |
| | | 5 | 4444040040 | 4.40.4 | | | |

General Chemistry

Client Sample ID: OC-GW-CA1

Lab Sample ID: 360-31119-9 Date Sampled: 11/16/2010 1010

Client Matrix: Water Date Received: 11/16/2010 1720

| Analyte | Result | Qual | Units | RL | RL | Dil | Method |
|---------------------|---------------------------|---------------|----------------|----------|------|-----|------------|
| Sulfate | 100 | | mg/L | 20 | 20 | 10 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/2010 (|)135 | | | |
| Chloride | 11 | | mg/L | 1.0 | 1.0 | 1.0 | 300.0 |
| | Analysis Batch: 360-66331 | Date Analyzed | : 11/23/2010 (|)120 | | | |
| Ammonia | 1.1 | | mg/L | 0.10 | 0.10 | 1.0 | L107-06-1B |
| | Analysis Batch: 360-66305 | Date Analyzed | : 11/24/2010 1 | 1058 | | | |
| | Prep Batch: 360-66232 | Date Prep | pared: 11/23/2 | 010 1056 | | | |
| Specific Conductano | ce 600 | | umhos/cm | 1.0 | 1.0 | 1.0 | SM 2510B |
| | | | | | | | |

DATA REPORTING QUALIFIERS

Client: Olin Corporation Job Number: 360-31119-1

| Lab Section | Qualifier | Description |
|-------------|-----------|---|
| | | |
| Metals | | |
| | J | Result is less than the RL but greater than or equal to the MDL |
| | · · | and the concentration is an approximate value. |

QUALITY CONTROL RESULTS

QC Association Summary

| | | Report | | | |
|--------------------------|------------------------------|--------|---------------|--------|------------|
| Lab Sample ID | Client Sample ID | Basis | Client Matrix | Method | Prep Batch |
| Metals | | | | | |
| Analysis Batch:360-66152 | | | | | |
| LCS 360-66152/1 | Lab Control Sample | Т | Water | 6010B | |
| LCSD 360-66152/4 | Lab Control Sample Duplicate | Т | Water | 6010B | |
| MB 360-66152/2 | Method Blank | Т | Water | 6010B | |
| 360-31119-1 | OC-GW-10S | D | Water | 6010B | |
| 360-31119-2 | OC-GW-201S | D | Water | 6010B | |
| 360-31119-3 | OC-GW-24 | D | Water | 6010B | |
| 360-31119-4 | OC-GW-26 | D | Water | 6010B | |
| 360-31119-5 | OC-PZ-18R | D | Water | 6010B | |
| 360-31119-6 | OC-GW-35S | D | Water | 6010B | |
| 360-31119-7 | OC-GW-25 | D | Water | 6010B | |
| 360-31119-8 | OC-GW-76S | D | Water | 6010B | |
| 360-31119-9 | OC-GW-CA1 | D | Water | 6010B | |

Report Basis

D = Dissolved

T = Total

QC Association Summary

| | | Report | | | |
|--------------------------|--------------------|--------|---------------|-----------------|------------|
| Lab Sample ID | Client Sample ID | Basis | Client Matrix | Method | Prep Batch |
| General Chemistry | | | | | |
| Analysis Batch:360-66028 | 3 | | | | |
| _CS 360-66028/1 | Lab Control Sample | Т | Water | SM 2510B | |
| MB 360-66028/4 | Method Blank | T | Water | SM 2510B | |
| 360-31119-1 | OC-GW-10S | T | Water | SM 2510B | |
| 360-31119-2 | OC-GW-201S | T | Water | SM 2510B | |
| 360-31119-3 | OC-GW-24 | T | Water | SM 2510B | |
| 360-31119-4 | OC-GW-26 | Т | Water | SM 2510B | |
| 360-31119-5 | OC-PZ-18R | T | Water | SM 2510B | |
| 360-31119-6 | OC-GW-35S | Т | Water | SM 2510B | |
| 360-31119-7 | OC-GW-25 | Т | Water | SM 2510B | |
| 360-31119-8 | OC-GW-76S | Т | Water | SM 2510B | |
| 360-31119-9 | OC-GW-CA1 | Т | Water | SM 2510B | |
| Prep Batch: 360-66232 | | | | | |
| .CS 360-66232/2-A | Lab Control Sample | Т | Water | Distill/Ammonia | |
| /IB 360-66232/1-A | Method Blank | Т | Water | Distill/Ammonia | |
| 60-31119-1 | OC-GW-10S | Т | Water | Distill/Ammonia | |
| 860-31119-2 | OC-GW-201S | Т | Water | Distill/Ammonia | |
| 860-31119-3 | OC-GW-24 | Т | Water | Distill/Ammonia | |
| 360-31119-4 | OC-GW-26 | Т | Water | Distill/Ammonia | |
| 360-31119-5 | OC-PZ-18R | T | Water | Distill/Ammonia | |
| 360-31119-6 | OC-GW-35S | T | Water | Distill/Ammonia | |
| 360-31119-7 | OC-GW-25 | T | Water | Distill/Ammonia | |
| 360-31119-8 | OC-GW-76S | T | Water | Distill/Ammonia | |
| 360-31119-9 | OC-GW-CA1 | Т | Water | Distill/Ammonia | |
| Analysis Batch:360-66305 | 5 | | | | |
| CS 360-66232/2-A | Lab Control Sample | Т | Water | L107-06-1B | 360-66232 |
| MB 360-66232/1-A | Method Blank | Т | Water | L107-06-1B | 360-66232 |
| 860-31119-1 | OC-GW-10S | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-2 | OC-GW-201S | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-3 | OC-GW-24 | Т | Water | L107-06-1B | 360-66232 |
| 60-31119-4 | OC-GW-26 | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-5 | OC-PZ-18R | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-6 | OC-GW-35S | Т | Water | L107-06-1B | 360-66232 |
| 60-31119-7 | OC-GW-25 | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-8 | OC-GW-76S | Т | Water | L107-06-1B | 360-66232 |
| 360-31119-9 | OC-GW-CA1 | Ť | Water | L107-06-1B | 360-66232 |

QC Association Summary

| | | Report | | | |
|--------------------------|--------------------|--------|---------------|--------|------------|
| Lab Sample ID | Client Sample ID | Basis | Client Matrix | Method | Prep Batch |
| General Chemistry | | | | | |
| Analysis Batch:360-66329 |) | | | | |
| LCS 360-66329/6 | Lab Control Sample | T | Water | 300.0 | |
| MB 360-66329/5 | Method Blank | Т | Water | 300.0 | |
| 360-31119-1 | OC-GW-10S | T | Water | 300.0 | |
| 360-31119-1DU | Duplicate | Т | Water | 300.0 | |
| 360-31119-2 | OC-GW-201S | Т | Water | 300.0 | |
| 360-31119-3 | OC-GW-24 | Т | Water | 300.0 | |
| 360-31119-4 | OC-GW-26 | Т | Water | 300.0 | |
| Analysis Batch:360-66331 | I | | | | |
| LCS 360-66331/6 | Lab Control Sample | Т | Water | 300.0 | |
| MB 360-66331/5 | Method Blank | T | Water | 300.0 | |
| 360-31119-5 | OC-PZ-18R | Т | Water | 300.0 | |
| 360-31119-6 | OC-GW-35S | T | Water | 300.0 | |
| 360-31119-7 | OC-GW-25 | Т | Water | 300.0 | |
| 360-31119-8 | OC-GW-76S | Т | Water | 300.0 | |
| 360-31119-9 | OC-GW-CA1 | Т | Water | 300.0 | |
| Analysis Batch:360-66377 | 7 | | | | |
| LCS 360-66377/6 | Lab Control Sample | Т | Water | 300.0 | |
| MB 360-66377/5 | Method Blank | Т | Water | 300.0 | |
| 360-31119-2 | OC-GW-201S | Т | Water | 300.0 | |

Report Basis

T = Total

100

12

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66152 Method: 6010B Preparation: N/A

Lab Sample ID: Analysis Batch: 360-66152 MB 360-66152/2 Instrument ID: Varian ICP Client Matrix: Water Prep Batch: N/A Lab File ID: 111910d.csv Dilution: 1.0 Units: ug/L Initial Weight/Volume: 1.0 mL

11/19/2010 1400 Date Analyzed: Final Weight/Volume: 1.0 mL Date Prepared: N/A

MDL RL Analyte Result Qual

Chromium ND 0.65 5.0

ND

Method: 6010B Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 360-66152 Preparation: N/A

Aluminum

Chromium

LCS Lab Sample ID: LCS 360-66152/1 Analysis Batch: 360-66152 Instrument ID: Varian ICP Client Matrix: Water Prep Batch: N/A Lab File ID: 111910d.csv

Units: ug/L Dilution: 1.0 Initial Weight/Volume: 1.0 mL

11/19/2010 1357 Final Weight/Volume: Date Analyzed: 10 mL

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 360-66152/4 Analysis Batch: 360-66152 Instrument ID: Varian ICP

Client Matrix: Water Prep Batch: N/A Lab File ID: 111910d.csv Dilution: Units: ug/L 1.0 Initial Weight/Volume: 1.0 mL

11/19/2010 1448 Date Analyzed: Final Weight/Volume: 10 mL Date Prepared: N/A

99

99

100

% Rec. LCS LCSD Limit RPD RPD Limit LCS Qual LCSD Qual Analyte Aluminum 100 80 - 120 20

80 - 120

0

1

20

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No Equipment Assigned

Instrument ID:

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66329 Method: 300.0 Preparation: N/A

Client Matrix: Water Prep Batch: N/A Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 1.0 mL

11/22/2010 1632 Date Analyzed: Final Weight/Volume: 1.0 mL Date Prepared: N/A

Analysis Batch: 360-66329

RL RL Analyte Result Qual Sulfate ND 2.0 2.0 Chloride ND 1.0 1.0

Lab Control Sample - Batch: 360-66329 Method: 300.0 Preparation: N/A

Lab Sample ID: LCS 360-66329/6 Analysis Batch: 360-66329 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: N/A Lab File ID:

Initial Weight/Volume: Dilution: 1.0 Units: mg/L 1.0 mL

Date Analyzed: 11/22/2010 1647 Final Weight/Volume: 10 mL

Date Prepared: N/A

Lab Sample ID:

MB 360-66329/5

Analyte Spike Amount Result % Rec. Limit Qual 85 - 115 Sulfate 0.08 83.8 105 85 - 115 Chloride 40.0 41.5 104

Duplicate - Batch: 360-66329 Method: 300.0 Preparation: N/A

Lab Sample ID: 360-31119-1 Analysis Batch: 360-66329 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: N/A Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/22/2010 2018 Final Weight/Volume: 1.0 mL

N/A Date Prepared:

RPD Qual Analyte Sample Result/Qual Result Limit Sulfate 58 57.7 0.08 20 Chloride 21 20.7 20

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66331 Method: 300.0 Preparation: N/A

Lab Sample ID: Analysis Batch: 360-66331 MB 360-66331/5 Instrument ID: No Equipment Assigned Client Matrix: Water Prep Batch: N/A Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 1.0 mL 11/22/2010 2304 Final Weight/Volume: 1.0 mL

Date Analyzed: Date Prepared: N/A

Result Qual RL RL Analyte Sulfate ND 2.0 2.0 Chloride ND 1.0 1.0

Lab Control Sample - Batch: 360-66331 Method: 300.0 Preparation: N/A

Lab Sample ID: LCS 360-66331/6 Analysis Batch: 360-66331 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: N/A Lab File ID:

Dilution: Units: mg/L Initial Weight/Volume: 1.0 1.0 mL

11/22/2010 2319 Date Analyzed: Final Weight/Volume: 10 mL

Date Prepared: N/A

Analyte Spike Amount Result % Rec. Limit Qual Sulfate 80.0 85 - 115 83.6 105 40.0 85 - 115 Chloride 41.3 103

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66377 Method: 300.0 Preparation: N/A

·

Lab Sample ID: MB 360-66377/5 Analysis Batch: 360-66377 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: N/A Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/24/2010 1610 Final Weight/Volume: 1.0 mL Date Prepared: N/A

Analyte Result Qual RL RL

Sulfate ND 2.0 2.0 Chloride ND 1.0 1.0

Lab Control Sample - Batch: 360-66377 Method: 300.0 Preparation: N/A

Lab Sample ID: LCS 360-66377/6 Analysis Batch: 360-66377 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: N/A Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 1.0 mL

Date Analyzed: 11/24/2010 1625 Final Weight/Volume: 10 mL

Date Prepared: N/A

Analyte Spike Amount Result % Rec. Limit Qual 80.0 85 - 115 Sulfate 82.6 103 40.0 85 - 115 Chloride 41.8 104

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66232 Method: L107-06-1B

Preparation: Distill/Ammonia

Lab Sample ID: MB 360-66232/1-A Analysis Batch: 360-66305 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: 360-66232 Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 50 mL

Date Analyzed: 11/24/2010 1040 Final Weight/Volume: 50 mL

Date Prepared: 11/23/2010 1056

 Analyte
 Result
 Qual
 RL
 RL

 Ammonia
 ND
 0.10
 0.10

Lab Control Sample - Batch: 360-66232 Method: L107-06-1B

Preparation: Distill/Ammonia

Lab Sample ID: LCS 360-66232/2-A Analysis Batch: 360-66305 Instrument ID: No Equipment Assigned

Client Matrix: Water Prep Batch: 360-66232 Lab File ID: N/A

Dilution: 1.0 Units: mg/L Initial Weight/Volume: 50 mL

Date Analyzed: 11/24/2010 1041 Final Weight/Volume: 50 mL

Date Prepared: 11/23/2010 1056

Analyte Spike Amount Result % Rec. Limit Qual

Ammonia 10.0 9.33 93 85 - 115

Client: Olin Corporation Job Number: 360-31119-1

Method Blank - Batch: 360-66028 Method: SM 2510B

Preparation: N/A

Lab Sample ID: MB 360-66028/4 Analysis Batch: 360-66028 Instrument ID: Autotitrator

Client Matrix: Water Prep Batch: N/A Lab File ID: 10111800.TXT Dilution: 1.0 Units: umhos/cm Initial Weight/Volume:

Date Analyzed: 11/18/2010 1005 Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte Result Qual RL RL
Specific Conductance ND 1.0 1.0

Lab Control Sample - Batch: 360-66028 Method: SM 2510B Preparation: N/A

Lab Sample ID: LCS 360-66028/1 Analysis Batch: 360-66028 Instrument ID: Autotitrator

Client Matrix: Water Prep Batch: N/A Lab File ID: 10111800.TXT

Dilution: 1.0 Units: umhos/cm Initial Weight/Volume:

Date Analyzed: 11/18/2010 0942 Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte Spike Amount Result % Rec. Limit Qual
Specific Conductance 1410 1380 97 85 - 115

State Accreditation Matrix

| | | State where Primary Accreditation is Carried | | | | | |
|-----------------------------|--|--|----------|-----------------|--------------------|--------------|--|
| Made ad Nove | Description | New Hampshire | | | Florida (NELAC) | North | |
| Method Name 821-R-02-012 | Description Toxicity, Acute (48-Hour)(list upon request) | (NELAC) prim. | Mass | Conn | (NELAC) NP | Carolina | |
| SM 4500 CI F | Chlorine, Residual | | NP | | | | |
| SM 9215E | Heterotrophic Plate Count (SimPlate) | | Р | | | | |
| SM 9222D | Coliforms, Fecal (Membrane Filter) | | P/NP | | | | |
| SM 9223 | Coliforms, Total, and E.Coli (Colilert-P/A) | | Р | | | | |
| SM 9224 | Coliforms, Total, and E.Coli (Enumeration) | | Р | | | | |
| 1103.1 | E.coli | | ambient/ | | | | |
| Enterolert | Enterococcus | | source | | | | |
| 200.8 Rev 5.4 | Metals (ICP/MS) (list upon request) | NP/P | NP/P | NP/P | | | |
| 200.7 Rev 4.4 | Metals (ICP)(list upon request) | NP/P | NP/P | NP/P | | | |
| 6010B | Metals (ICP)(list upon request) | NP/SW | | NP/SW | | | |
| 245.1 | Mercury (CVAA) | NP/P | NP | NP/P | | | |
| 7470A | Mercury (CVAA) | NP | | NP | | | |
| 7471A | Mercury (CVAA) | SW NB/B | ND | SW ND/D | | | |
| SM 2340B | Total Hardness (as CaCO3) by calculation | NP/P | NP | NP/P | | | |
| 3005A | Preparation, Total Recoverable or Dissolved Metals | NP/P | | NP/P | | | |
| 3010A 3020A | Preparation, Total Metals Preparation, Total Metals | NP/P NP/P/SW | | NP/P NP/P/SW | | | |
| | -, | SW | | SW | | | |
| 3050B 504.1 | Preparation, Metals EDB, DBCP and 1,2,3-TCP (GC) | Svv P | P | P | | | |
| 608 | Organochlorine Pest/PCBs (list upon request) | NP | NP | NP | | 1 | |
| 625 | Semivolatile Org Comp (GC/MS)(list upon request) | NP | INI | NP | | | |
| 3546 | Microwave Extraction | SW | | | | | |
| 3510C | Liquid-Liquid Extraction (Separatory Funnel) | NP | | NP | | | |
| 3540C | Soxhlet Extraction | SW | | | | | |
| 3550B | Ultrasonic Extraction | SW | | SW | | | |
| 600/4-81-045 | Polychlorinated Biphenyls (PCBs) (GC) | | NP | NP | | | |
| 8081A | Organochlorine Pesticides (GC)(list upon request) | NP/SW | | NP/SW | | | |
| 8082A | PCBs by Gas Chromatography(list upon request) | NP/SW | | NP/SW | | | |
| 8270C | Semivolatile Comp.(GC/MS)(list upon request) | NP/SW | | NP/SW | | | |
| CT ETPH | Conn - Ext. Total petroleum Hydrocarbons (GC) | | | NP/SW | | | |
| MA-EPH | Mass - Extractable Petroleum Hydrocarbons (GC) | | | NP/SW | | NP/SW | |
| 524.2 | Volatile Org Comp (GC/MS)(list upon request) | Р | Р | Р | | | |
| 524.2 | Trihalomethane compounds | Р | Р | Р | | | |
| 624 | Volatile Org Comp (GC/MS)(list upon request) | NP | NP | NP | | | |
| 5035 | Closed System Purge and Trap | SW | | SW | | | |
| 5030B | Purge and Trap | NP NP | | NP | | | |
| 8260B | Volatile Org Comp. (GC/MS)(list upon request) | NP/SW | | NP/SW NP/SW | | NP/SW | |
| MAVPH | Mass - Volatile Petroleum Hydrocarbons (GC) | P | P | P NP/SW | | NP/SW | |
| 180.1 | Turbidity, Nephelometric | NP/P | NP/P | NP/P | | | |
| 300 410.4 | Anions, Ion Chromatography COD | NP/P | NP/P | NP/P | | | |
| 1010 | Ignitability, Pensky-Martens Closed-Cup Method | SW | INI | SW | | | |
| 10-107-06-2 | Nitrogen, Total Kjeldahl | NP | NP | NP | | | |
| 7196A | Chromium, Hexavalent | NP/SW | 141 | NP/SW | | | |
| 9012A | Cyanide, Total and/or Amenable | NP/SW | | NP/SW | | | |
| 9030B | Sulfide, Distillation (Acid Soluble and Insoluble) | NP | | NP | | | |
| 9040B | pH | NP | | NP | | | |
| 9045C | pH | SW | | SW | | | |
| L107041C | Nitrogen, Nitrate | NP | Р | NP/P | | | |
| L107-06-1B | Nitrogen Ammonia | NP | NP | NP/P | | | |
| L204001A CN | Cyanide, Total | Р | NP/P | NP/P | | | |
| L210-001A | Phenolics, Total Recoverable | NP | NP | NP | | | |
| SM 2320B | Alkalinity | NP/P | NP/P | NP/P | | | |
| SM 2510B | Conductivity, Specific Conductance | NP/P | NP/P | NP/P | | | |
| SM 2540C | Solids, Total Dissolved (TDS) | NP/P | NP/P | NP/P | | | |
| SM 2540D | Solids, Total Suspended (TSS) | NP | NP | NP | | | |
| SM 3500 CR D | Chromium, Hexavalent | NP | | NP | | | |
| SM 4500 H+ B | рН | NP/P | NP/P | NP/P | | | |
| SM 4500 NO2 B | Nitrogen, Nitrite | NP | P | NP/P | | | |
| SM 4500 P E | Phosphorus, Orthophosphate | NP/P | NP | NP/P | | | |
| SM 4500 P E | Phosphorus, Total | NP | NP | NP | | ļ | |
| SM 4500 S2 D | Sulfide, Total | NP | ND | NP | | | |
| SM 5210B | BOD, 5-Day | NP ND/D | NP | NP ND/D | | 1 | |
| SM 5310B | Organic Carbon, Total (TOC) | NP/P | NP | NP/P | | | |

Not all organic compounds are accreditied under NELAC

For methods with multiple compounds all compounds may not meet NELAC criteria, listing should be obtained from the laboratory The lab carries additional accreditations with several states. This is the laboratories typical listing but is subject to change based on the laboratories current certification standing.

Login Sample Receipt Check List

Client: Olin Corporation Job Number: 360-31119-1

Login Number: 31119 List Source: TestAmerica Westfield

Creator: Beaumier, Janine E

List Number: 1

| Question | T / F/ NA Comment |
|--|-------------------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A |
| The cooler's custody seal, if present, is intact. | N/A |
| The cooler or samples do not appear to have been compromised or tampered with. | True |
| Samples were received on ice. | True |
| Cooler Temperature is acceptable. | True |
| Cooler Temperature is recorded. | True |
| COC is present. | True |
| COC is filled out in ink and legible. | True |
| COC is filled out with all pertinent information. | True |
| Is the Field Sampler's name present on COC? | True |
| There are no discrepancies between the sample IDs on the containers and the COC. | True |
| Samples are received within Holding Time. | True |
| Sample containers have legible labels. | True |
| Containers are not broken or leaking. | True |
| Sample collection date/times are provided. | True |
| Appropriate sample containers are used. | True |
| Sample bottles are completely filled. | True |
| Sample Preservation Verified | True |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | N/A |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True |
| Multiphasic samples are not present. | True |
| Samples do not require splitting or compositing. | True |

TestAmerica Westfield
Westfield Executive Park 53 Southampton Road
Westfield, MA 01085

Chain of Custody Record

Testamerica